Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Complex Clinical Cases

"ACUTE LEFT VENTRICULAR HYPERTROPHY" AS A MARKER OF COVID-19 MYOCARDITIS AND ITS IMPLICATIONS

Poster Contributions
Saturday, May 15, 2021, 1:15 p.m.-2:00 p.m.

Session Title: Complex Clinical Cases: FIT COVID-19 1
Abstract Category: FIT: Coronavirus Disease (COVID-19)

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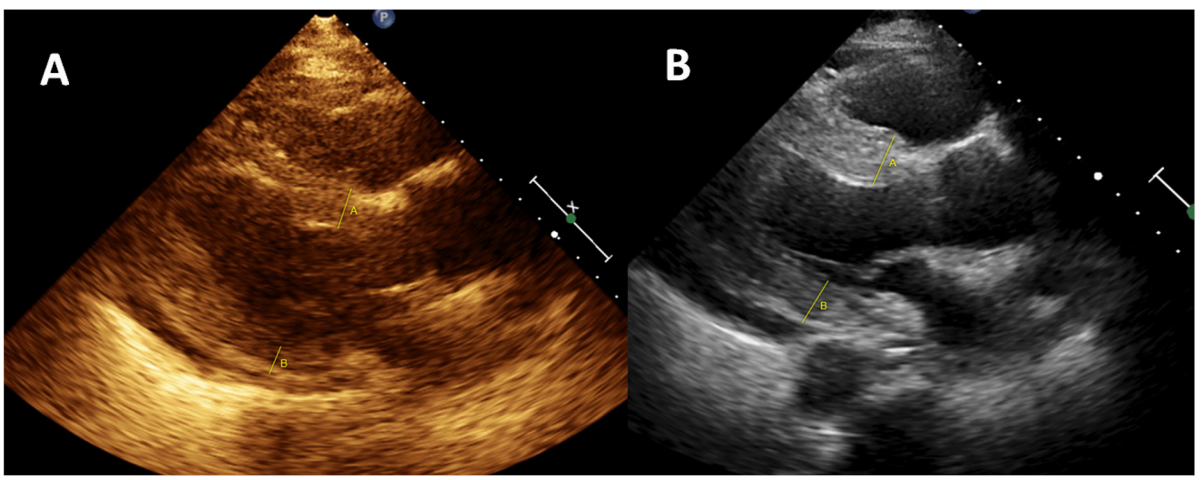
Background: Myocarditis results in myocardial inflammation and edema. Hence, an acute increase in LV wall thickness by transthoracic echocardiograms (TTE) may indicate severe myocarditis.

Case: A 65-year-old male with medical history of hypertension and diabetes presented with cough and shortness of breath due to COVID-19, diagnosed at outside facility with COVID-19 and received convalescent plasma. TTE on hospital day-1 showed normal LV function, normal wall thickness and LV ejection fraction (EF) of 60%. He was started on standard dose and duration of dexamethasone (10-day course) and remdesivir (5-day course). Because of worsening of hypoxemia, repeat TTE was performed and this showed an LVEF of 55%, but the LV wall thickness was nearly twice as much prompting to a diagnosis of severe myocardial edema due to myocarditis (figure). There was a rise in troponin confirming myocarditis.

Decision-making: A hallmark of inflammation is edema. In this patient with paired echocardiograms 2 weeks apart, an acute increase in LV wall thickness signified myocarditis. Doubling of wall thickness amounts to at least 2-3 times the increase in LV interstitial volume due to myocarditis and signifies florid myocarditis. These patients can deteriorate rapidly and should be transferred to a center capable of mechanical circulatory support.



TTE image in parasternal long-axis view.
Panel A: TTE done at hospital day-1. IVSd 11 mm, PWd 9 mm.
Panel B: TTE done at hospital day-19. IVSd 21 mm, PWd 15 mm.

Conclusion: An acute increase in LV wall thickness in a setting consistent with myocarditis indicates florid myocarditis and this can be discovered by 2D echocardiography, bedside.